

SeqListing.txt
SEQUENCE LISTING

<110> Zhu, Zhenping

<120> Bispecific Antibodies That Bind to VEGF Receptors

<130> 11245/48503

<140> 10/520,026
<141> 2004-12-27

<150> PCT/US02/041372
<151> 2002-12-24

<150> PCT/US02/20332
<151> 2002-06-26

<150> US 60/301,299
<151> 2001-06-26

<160> 137

<170> WordPerfect 8.0 for windows

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Ser Thr Ser Asn Leu Ala Ser
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Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Phe
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Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile
35 40 45
Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Gly Tyr Ala Pro Lys Phe
50 55 60
Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Asn Thr Ala Tyr
65 70 75 80
Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr
100 105 110
Val Thr Val Ser Ser
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20 25 30
His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys Leu Trp Ile Tyr
35 40 45
Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
50 55 60
Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg Met Glu Ala Glu
65 70 75 80
Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Ser Ser Tyr Pro Phe Thr
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tca gtc aaa ttg tcc tgc aca act tct ggc ttc aac att aaa gac ttc Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Phe	96
20 25 30	
tat atg cac tgg gtg aag cag agg cct gaa cag ggc ctg gag tgg att Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile	144
35 40 45	
gga tgg att gat cct gag aat ggt gat tct ggt tat gcc ccg aag ttc Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Gly Tyr Ala Pro Lys Phe	192
50 55 60	
cag ggc aag gcc acc atg act gca gac tca tcc tcc aac aca gcc tac Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Asn Thr Ala Tyr	240
65 70 75 80	
ctg cag ctc agc agc ctg aca tct gag gac act gcc gtc tat tac tgt Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys	288
85 90 95	
aat gca tac tat ggt gac tac gaa ggc tac tgg ggc caa ggg acc acg Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr	336
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20 25 30	
cac tgg ttc cag cag aag cca ggc act tct ccc aaa ctc tgg att tat His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys Leu Trp Ile Tyr	144
35 40 45	
agc aca tcc aac ctg gct tct gga gtc cct gct cgc ttc agt ggc agt Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser	192
50 55 60	
gga tct ggg acc tct tac tct ctc aca atc agc cga atg gag gct gaa Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg Met Glu Ala Glu	240
65 70 75 80	
gat gct gcc act tat tac tgc cag caa agg agt agt tac cca ttc acg Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Ser Ser Tyr Pro Phe Thr	288

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85	90	95	324
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<210> 17
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<400> 17

Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser	15
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<212> DNA
<213> Mouse

<400> 18

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<210> 19
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<212> PRT
<213> Mouse

<400> 19

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1 5	10

<210> 20
<211> 15
<212> DNA
<213> Mouse

<400> 20

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<210> 21
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<212> PRT
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<400> 21

Trp Ile Asp Pro Glu Asn Gly Asp Ser Asp Tyr Ala Pro Lys Phe Gln Gly	15
1 5 10	15

<210> 22
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<400> 22

Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Gly Ser Gly Ala	15
1 5 10	15

SeqListing.txt

Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Phe
 20 25 30
 Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile
 35 40 45
 Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Asp Tyr Ala Pro Lys Phe
 50 55 60
 Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Asn Thr Ala Tyr
 65 70 75 80
 Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr
 100 105 110
 Val Thr Val Ser Ser
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<210> 23
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<400> 23

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 20 25 30
 His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys Leu Trp Ile Tyr
 35 40 45
 Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
 50 55 60
 Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg Met Glu Ala Glu
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tca gtc aaa ttg tcc tgc aca act tct ggc ttc aac att aaa gac ttc	96
Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Phe	
20 25 30	
tat atg cac tgg gtg aag cag agg cct gaa cag ggc ctg gag tgg att	144
Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile	
35 40 45	
gga tgg att gat cct gag aat ggt gat tct gat tat gcc ccg aag ttc	192

SeqListing.txt

Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Asp Tyr Ala Pro Lys Phe		
50 55 60		
cag ggc aag gcc acc atg act gca gac tca tcc tcc aac aca gcc tac	240	
Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Ser Asn Thr Ala Tyr		
65 70 75 80		
ctg cag ctc agc agc ctg aca tct gag gac act gcc gtc tat tac tgt	288	
Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys		
85 90 95		
aat gca tac tat ggt gac tac gaa ggc tac tgg ggc caa ggg acc acg	336	
Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr		
100 105 110		
gtc acc gtc tcc tca	351	
Val Thr Val Ser Ser		
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gag aag gtc acc ata acc tgc agt gcc agc tca agt gta agt tac atg	96	
Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met		
20 25 30		
cac tgg ttc cag cag aag cca ggc act tct ccc aaa ctc tgg att tat	144	
His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys Leu Trp Ile Tyr		
35 40 45		
agc aca tcc aac ctg gct tct gga gtc cct gct cgc ttc agt ggc agt	192	
Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser		
50 55 60		
gga tct ggg acc tct tac tct ctc aca atc agc cga atg gag gct gaa	240	
Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg Met Glu Ala Glu		
65 70 75 80		
gat gct gcc act tat tac tgc cag caa agg agt agt tac cca ttc acg	288	
Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Ser Ser Tyr Pro Phe Thr		
85 90 95		
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Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Gly Ser Gly Ala		
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20 25 30		
Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile		
35 40 45		
Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Gly Tyr Ala Pro Lys Phe		
50 55 60		
Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Ser Asn Thr Ala Tyr		
65 70 75 80		
Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys		
85 90 95		

SeqListing.txt

Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr
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Val Thr Val Ser Ser Gly Gly Gly Ser Gly Gly Gly Ser Gly
115 120 125
Gly Gly Gly Ser Asp Ile Glu Leu Thr Gln Ser Pro Ala Ile Met Ser
130 135 140
Ala Ser Pro Gly Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser
145 150 155 160
Val Ser Tyr Met His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys
165 170 175
Leu Trp Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg
180 185 190
Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg
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210 215 220
Tyr Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Arg Ala
225 230 235 240

<210> 28
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Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Phe
20 25 30
Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile
35 40 45
Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Asp Tyr Ala Pro Lys Phe
50 55 60
Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Ser Asn Thr Ala Tyr
65 70 75 80
Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr
100 105 110
Val Thr Val Ser Ser Gly Gly Gly Ser Gly Gly Gly Ser Gly
115 120 125
Gly Gly Gly Ser Asp Ile Glu Leu Thr Gln Ser Pro Ala Ile Met Ser
130 135 140
Ala Ser Pro Gly Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser
145 150 155 160
Val Ser Tyr Met His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys
165 170 175
Leu Trp Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg
180 185 190
Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg
195 200 205
Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Ser Ser
210 215 220
Tyr Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
225 230 235

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<212> DNA

<213> Artificial Sequence
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SeqListing.txt

<223> Synthetic primer

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43

<210> 30

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic primer

<400> 30

tcgaaggatc actcaccttt tatttccagc

30

<210> 31

<211> 52

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic primer

<400> 31

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<210> 32

<211> 36

<212> DNA

<213> Artificial Sequence

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<223> Signal

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<210> 33

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Leader peptide

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Val His Ser

<210> 34

<211> 32

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<223> Synthetic primer

SeqListing.txt

<400> 34

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<212> PRT

<213> Mouse

<400> 35

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<210> 36

<211> 17

<212> PRT

<213> Mouse

<400> 36

Gly Arg Ile Asp Pro Pro Asn Asp Asn Thr Lys Asp Pro Lys Phe Gln Gly
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<210> 37

<211> 7

<212> PRT

<213> Mouse

<400> 37

Pro Pro Phe Tyr Phe Asp Tyr
1 5

<210> 38

<211> 11

<212> PRT

<213> Mouse

<400> 38

Lys Ala Ser Gln Asn Val Asp Thr Asn Val Ala
1 5 10

<210> 39

<211> 7

<212> PRT

<213> Mouse

<400> 39

Ser Ala Ser Tyr Arg Tyr Ser
1 5

<210> 40

<211> 9

<212> PRT

<213> Mouse

<400> 40

SeqListing.txt

Gln Gln Tyr Asn Ser Phe Pro Tyr Thr
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<211> 116
<212> PRT
<213> Mouse

<400> 41

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Ser Val Lys Leu Ser Cys Thr Ala Ser Gly Phe Asn Ile Lys Asp Thr
20 25 30
Tyr Ile His Trp Val Lys Gln Ser Pro Glu Gln Gly Leu Glu Trp Ile
35 40 45
Gly Trp Ile Asp Pro Pro Asn Asn Thr Lys Tyr Asp Pro Lys Phe
50 55 60
Gln Gly Lys Ala Thr Ile Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr
65 70 75 80
Met Gln Leu Arg Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Leu Pro Pro Phe Tyr Phe Asp Tyr Trp Gly His Gly Thr Thr Val
100 105 110
Thr Val Ser Ser
115

<210> 42
<211> 109
<212> PRT
<213> Mouse

<400> 42

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Asp Arg Val Ser Val Thr Cys Lys Ala Ser Gln Asn Val Asp Thr Asn
20 25 30
Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Ala Leu Ile
35 40 45
Tyr Ser Ala Ser Tyr Arg Tyr Ser Gly Val Pro Asp Arg Phe Thr Gly
50 55 60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn Val Gln Ser
65 70 75 80
Glu Asp Leu Ala Glu Tyr Phe Cys Gln Gln Tyr Asn Ser Phe Pro Tyr
85 90 95
Thr Phe Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala
100 105

<210> 43
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<212> DNA
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<400> 43

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<210> 44
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SeqListing.txt

<213> Mouse

<400> 44

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cag 51

<210> 45

<211> 21

<212> DNA

<213> Mouse

<400> 45

cca ccc ttc tac ttt gac tac 21
Pro Pro Phe Tyr Phe Asp Tyr
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<210> 46

<211> 33

<212> DNA

<213> Mouse

<400> 46

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<210> 47

<211> 21

<212> DNA

<213> Mouse

<400> 47

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Ser Ala Ser Tyr Arg Tyr Ser
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<210> 48

<211> 27

<212> DNA

<213> Mouse

<400> 48

cag caa tat aac agc ttt cct tac acg 27
Gln Gln Tyr Asn Ser Phe Pro Tyr Thr
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<210> 49

<211> 348

<212> DNA

<213> Mouse

<400> 49

cag gtc aaa ctg cag cag tct ggg gca gag ctt gtc aag cca ggg gcc 48
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SeqListing.txt

1	5	10	15		
tca gtc aag ttg tcc tgc aca gct tct ggc ttc aac att aaa gac acc	Ser Val Lys Leu Ser Cys Thr Ala Ser Gly Phe Asn Ile Lys Asp Thr			96	
20	25	30			
tat ata cac tgg gtg aag cag agc cct gaa cag ggc ctg gag tgg att	Tyr Ile His Trp Val Lys Gln Ser Pro Glu Gln Gly Leu Glu Trp Ile			144	
35	40	45			
gga agg atc gat cct ccg aat gat aat act aaa tat gac ccg aag ttc	Gly Trp Ile Asp Pro Asn Asp Asn Thr Lys Tyr Asp Pro Lys Phe			192	
50	55	60			
cag ggc aag gcc act ata aca gca gac aca tcc tcc aat aca gcc tac	Gln Gly Lys Ala Thr Ile Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr			240	
65	70	75	80		
atg cag ctc cgc agc ctg aca tct gag gac act gcc gtc tat tac tgt	Met Gln Leu Arg Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys			288	
85	90	95			
gcc ctc cca ccg ttc tac ttt gac tac tgg ggc cat ggc acc acg gtc	Ala Leu Pro Pro Phe Tyr Phe Asp Tyr Trp Gly His Gly Thr Thr Val			336	
100	105	110			
acc gtc tcc tca	Thr Val Ser Ser			348	
115					

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<212> DNA
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<400> 50

gac atc gag ctc act cag tct cca aaa ttc atg tcc aca tca gta gga	Asp Ile Glu Leu Thr Gln Ser Pro Lys Phe Met Ser Thr Ser Val Gly		48		
1	5	10	15		
gac agg gtc agc gtc acc tgc aag gcc agt cag aat gtg gat act aat	Asp Arg Val Ser Val Thr Cys Lys Ala Ser Gln Asn Val Asp Thr Asn		96		
20	25	30			
gta gcc tgg tat caa cag aaa cca ggg caa tct cct aaa gca ctg att	Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Ala Leu Ile		144		
35	40	45			
tac tcg gca tcc tac cgg tac agt gga gtc cct gat cgc ttc aca ggc	Tyr Ser Ala Ser Tyr Arg Tyr Ser Gly Val Pro Asp Arg Phe Thr Gly		192		
50	55	60			
agt gga tct ggg aca gat ttc act ctc acc atc agc aat gtg cag tct	Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn Val Gln Ser		240		
65	70	75	80		
gaa gac ttg gca gag tat ttc tgt cag caa tat aac agc ttt cct tac	Glu Asp Leu Ala Glu Tyr Phe Cys Gln Gln Tyr Asn Ser Phe Pro Tyr		288		
85	90	95			
acg ttc gga ggg ggg acc aag ctg gaa ata aaa cgg gcg	Thr Phe Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala		327		
100	105				

<210> 51
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<400> 51

Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Lys Pro Gly Ala				
1	5	10	15	
Ser Val Lys Leu Ser Cys Thr Ala Ser Gly Phe Asn Ile Lys Asp Thr				
20	25	30		

SeqListing.txt

Tyr Ile His Trp Val Lys Gln Ser Pro Glu Gln Gly Leu Glu Trp Ile
 35 40 45
 Gly Trp Ile Asp Pro Pro Asn Asp Asn Thr Lys Tyr Asp Pro Lys Phe
 50 55 60
 Gln Gly Lys Ala Thr Ile Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr
 65 70 75 80
 Met Gln Leu Arg Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Leu Pro Pro Phe Tyr Phe Asp Tyr Trp Gly His Gly Thr Thr Val
 100 105 110
 Thr Val Ser Ser Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly
 115 120 125
 Gly Gly Ser Asp Ile Glu Leu Thr Gln Ser Pro Lys Phe Met Ser Thr
 130 135 140
 Ser Val Gly Asp Arg Val Ser Val Thr Cys Lys Ala Ser Gln Asn Val
 145 150 155 160
 Asp Thr Asn Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys
 165 170 175
 Ala Leu Ile Tyr Ser Ala Ser Tyr Arg Tyr Ser Gly Val Pro Asp Arg
 180 185 190
 Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn
 195 200 205
 Val Gln Ser Glu Asp Leu Ala Glu Tyr Phe Cys Gln Gln Tyr Asn Ser
 210 215 220
 Phe Pro Tyr Thr Phe Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala
 225 230 235 240

<210> 52

<211> 720

<212> DNA

<213> Mouse

<400> 52

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Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Lys Pro Gly Ala	
1 5 10 15	
tca gtc aag ttg tcc tgc aca gct tct ggc ttc aac att aaa gac acc	96
Ser Val Lys Leu Ser Cys Thr Ala Ser Gly Phe Asn Ile Lys Asp Thr	
20 25 30	
tat ata cac tgg gtg aag cag agc cct gaa cag ggc ctg gag tgg att	144
Tyr Ile His Trp Val Lys Gln Ser Pro Glu Gln Gly Leu Glu Trp Ile	
35 40 45	
gga agg atc gat cct ccg aat gat aat act aaa tat gac ccg aag ttc	192
Gly Trp Ile Asp Pro Pro Asn Asp Asn Thr Lys Tyr Asp Pro Lys Phe	
50 55 60	
cag ggc aag gcc act ata aca gca gac aca tcc tcc aat aca gcc tac	240
Gln Gly Lys Ala Thr Ile Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr	
65 70 75 80	
atg cag ctc cgc agc ctg aca tct gag gac act gcc gtc tat tac tgt	288
Met Gln Leu Arg Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys	
85 90 95	
gcc ctc cca ccg ttc tac ttt gac tac tgg ggc cat ggc acc acg gtc	336
Ala Leu Pro Pro Phe Tyr Phe Asp Tyr Trp Gly His Gly Thr Thr Val	
100 105 110	
acc gtc tcc tca ggt gga ggc ggt tca ggc gga ggg ggc tct ggc ggt	384
Thr Val Ser Ser Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly	
115 120 125	
ggc gga tcg gac atc gag ctc act cag tct cca aaa ttc atg tcc aca	432
Gly Gly Ser Asp Ile Glu Leu Thr Gln Ser Pro Lys Phe Met Ser Thr	
130 135 140	
tca gta gga gac agg gtc agc gtc acc tgc aag gcc agt cag aat gtg	480
Ser Val Gly Asp Arg Val Ser Val Thr Cys Lys Ala Ser Gln Asn Val	

SeqListing.txt

145	150	155	160	
gat act aat gta gcc tgg tat caa cag aaa cca ggg caa tct cct aaa				528
Asp Thr Asn Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys				
165	170	175		
gca ctg att tac tcg gca tcc tac cgg tac agt gga gtc cct gat cgc				576
Ala Leu Ile Tyr Ser Ala Ser Tyr Arg Tyr Ser Gly Val Pro Asp Arg				
180	185	190		
ttc aca ggc agt gga tct ggg aca gat ttc act ctc acc atc agc aat				624
Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn				
195	200	205		
gtg cag tct gaa gac ttg gca gag tat ttc tgt cag caa tat aac agc				672
Val Gln Ser Glu Asp Leu Ala Glu Tyr Phe Cys Gln Gln Tyr Asn Ser				
210	215	220		
ttt cct tac acg ttc gga ggg ggg acc aag ctg gaa ata aaa cgg gcg				720
Phe Pro Tyr Thr Phe Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala				
225	230	235	240	

<210> 53

<211> 11

<212> PRT

<213> Human

<400> 53

Arg Ala Ser Gln Ser Val Ser Ser Tyr Leu Ala

5

10

<210> 54

<211> 7

<212> PRT

<213> Human

<400> 54

Asp Ser Ser Asn Arg Ala Thr

5

<210> 55

<211> 9

<212> PRT

<213> Human

<400> 55

Leu Gln His Asn Thr Phe Pro Pro Thr

5

<210> 56

<211> 11

<212> PRT

<213> Human

<400> 56

Arg Ala Ser Gln Gly Ile Ser Ser Arg Leu Ala

5

10

<210> 57

<211> 7

<212> PRT

<213> Human

<400> 57

SeqListing.txt

Ala Ala Ser Ser Leu Gln Thr
5

<210> 58

<211> 9

<212> PRT

<213> Human

<400> 58

Gln Gln Ala Asn Arg Phe Pro Pro Thr
5

<210> 59

<211> 14

<212> PRT

<213> Human

<400> 59

Ala Gly Thr Thr Thr Asp Leu Thr Tyr Tyr Asp Leu Val Ser
5 10

<210> 60

<211> 7

<212> PRT

<213> Human

<400> 60

Asp Gly Asn Lys Arg Pro Ser
5

<210> 61

<211> 10

<212> PRT

<213> Human

<400> 61

Asn Ser Tyr Val Ser Ser Arg Phe Tyr Val
5 10

<210> 62

<211> 13

<212> PRT

<213> Human

<400> 62

Ser Gly Ser Thr Ser Asn Ile Gly Thr Asn Thr Ala Asn
5 10

<210> 63

<211> 7

<212> PRT

<213> Human

<400> 63

Asn Asn Asn Gln Arg Pro Ser
5

<210> 64

<211> 12

<212> PRT

<213> uman

<400> 64

SeqListing.txt

Ala Ala Trp Asp Asp Ser Leu Asn Gly His Trp Val
5 10

<210> 65
<211> 10
<212> PRT
<213> Human
<400> 65
Gly Phe Thr Phe Ser Ser Tyr Ser Met Asn
5 10

<210> 66
<211> 17
<212> PRT
<213> Human
<400> 66

Ser Ile Ser Ser Ser Ser Tyr Ile Tyr Tyr Ala Asp Ser Val Lys Gly
5 10 15

<210> 67
<211> 7
<212> PRT
<213> Human
<400> 67

Val Thr Asp Ala Phe Asp Ile
5

<210> 68
<211> 10
<212> PRT
<213> Human
<400> 68

Gly Gly Thr Phe Ser Ser Tyr Ala Ile Ser
5 10

<210> 69
<211> 18
<212> PRT
<213> Human
<400> 69

Gly Gly Ile Ile Pro Ile Phe Gly Thr Ala Asn Tyr Ala Gln Lys Phe Gln Gly
5 10 15

<210> 70
<211> 16
<212> PRT
<213> Human
<400> 70

Gly Tyr Asp Tyr Tyr Asp Ser Ser Gly Val Ala Ser Pro Phe Asp Tyr
5 10 15

<210> 71
<211> 375
<212> DNA
<213> Human
<400> 71

SeqListing.txt

gag gtc cag ctg gtg cag tct ggg gct gag gtg aag aag cct ggg gcc	48
Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala	
5 10 15	
tca gtg aag gtc tcc tgc aag gct tct gga ggc acc ttc agc agc tat	96
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Ser Tyr	
20 25 30	
gct atc agc tgg gtg cga cag gcc cct gga caa ggg ctt gag tgg atg	144
Ala Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met	
35 40 45	
gga ggg atc atc cct atc ttt ggt aca gca aac tac gca cag aag ttc	192
Gly Gly Ile Ile Pro Ile Phe Gly Thr Ala Asn Tyr Ala Gln Lys Phe	
50 55 60	
cag ggc aga gtc act ttt acc gcg gac aaa tcc acg agt aca gcc tat	240
Gln Gly Arg Val Thr Phe Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr	
65 70 75 80	
atg gag ttg agg agc ctg aga tct gac gac acg gcc gtg tat tac tgt	288
Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys	
85 90 95	
gcg aga gga tac gat tac tat gat agt agt ggc gtg gct tcc ccc ttt	336
Ala Arg Gly Tyr Asp Tyr Tyr Asp Ser Ser Gly Val Ala Ser Pro Phe	
100 105 110	
gac tac tgg ggc cag gga acc ctg gtc acc gtc tca agc	375
Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser	
115 120 125	

<210> 72

<211> 125

<212> PRT

<213> Human

<400> 72

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala	
5 10 15	
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Ser Tyr	
20 25 30	
Ala Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met	
35 40 45	
Gly Gly Ile Ile Pro Ile Phe Gly Thr Ala Asn Tyr Ala Gln Lys Phe	
50 55 60	
Gln Gly Arg Val Thr Phe Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr	
65 70 75 80	
Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys	
85 90 95	
Ala Arg Gly Tyr Asp Tyr Tyr Asp Ser Ser Gly Val Ala Ser Pro Phe	
100 105 110	
Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser	
115 120 125	

<210> 73

<211> 333

<212> DNA

<213> Human

<400> 73

cag tct gtg ctg act cag cca ccc tca gcg tct ggg acc ccc ggg cag	48
Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln	
5 10 15	
agg gtc acc atc tct tgt tct gga agc acc tcc aac atc ggt act aat	96
Arg Val Thr Ile Ser Cys Ser Gly Ser Thr Ser Asn Ile Gly Thr Asn	
20 25 30	
act gca aac tgg ttc cag cag ctc cca gga acg gcc ccc aaa ctc ctc	144

SeqListing.txt

Thr Ala Asn Trp Phe Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu	35	40	45	
atc cac aat aat aat cag cgg ccc tca ggg gtc cct gac cga ttc tct				192
Ile His Asn Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser	50	55	60	
ggc tcc aag tct ggc acc tca gcc tcc ctg gcc atc agt ggg ctc cag				240
Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Gln	65	70	75	80
tct gag gat gag gct gat tat tac tgt gca gca tgg gat gac agc ctg				288
Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ala Trp Asp Asp Ser Leu	85	90	95	
aat ggc cat tgg gtg ttc ggc gga ggg acc aag ctg acc gtc ctg				333
Asn Gly His Trp Val Phe Gly Gly Thr Lys Leu Thr Val Leu	100	105	110	

<210> 74

<211> 111

<212> PRT

<213> Human

<400> 74

Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln	5	10	15	
Arg Val Thr Ile Ser Cys Ser Gly Ser Thr Ser Asn Ile Gly Thr Asn	20	25	30	
Thr Ala Asn Trp Phe Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu	35	40	45	
Ile His Asn Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser	50	55	60	
Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Gln	65	70	75	80
Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ala Trp Asp Asp Ser Leu	85	90	95	
Asn Gly His Trp Val Phe Gly Gly Thr Lys Leu Thr Val Leu	100	105	110	

<210> 75

<211> 348

<212> DNA

<213> Human

<400> 75

gag gtg cag ctg gtg cag tct ggg gga ggc ctg gtc aag cct ggg ggg	5	10	15	48
Glu Val Gln Leu Val Gln Ser Gly Gly Leu Val Lys Pro Gly Gly				
tcc ctg aga ctc tcc tgt gca gcc tct gga ttc acc ttc agt agc tat	20	25	30	96
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr				
agc atg aac tgg gtc cgc cag gct cca ggg aag ggg ctg gag tgg gtc	35	40	45	144
Ser Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val				
tca tcc att agt agt agt agt tac ata tac tac gca gac tca gtg	50	55	60	192
Ser Ser Ile Ser Ser Ser Ser Tyr Ile Tyr Tyr Ala Asp Ser Val				
aag ggc cga ttc acc atc tcc aga gac aac gcc aag aac tca ctg tat	65	70	75	240
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr				
ctg caa atg aac agc ctg aga gcc gag gac acg gct gtg tat tac tgt	85	90	95	288
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys				
gcg aga gtc aca gat gct ttt gat atc tgg ggc caa ggg aca atg gtc				336

SeqListing.txt

Ala Arg Val Thr Asp Ala Phe Asp Ile Trp Gly Gln Gly Thr Met Val

100

105

110

348

acc gtc tca agc

Thr Val Ser Ser

115

<210> 76

<211> 116

<212> PRT

<213> Human

<400> 76

Glu Val Gln Leu Val Gln Ser Gly Gly Leu Val Lys Pro Gly Gly
5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Ser Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Ser Ser Ser Tyr Ile Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Val Thr Asp Ala Phe Asp Ile Trp Gly Gln Gly Thr Met Val
100 105 110

Thr Val Ser Ser

115

<210> 77

<211> 321

<212> DNA

<213> Human

<400> 77

gaa att gtg atg aca cag tct cca gcc acc ctg tct ttg tct cca ggg 48
Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
5 10 15

gaa aga gcc acc ctc tcc tgc agg gcc agt cag agt gtt agc agc tac 96
Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Tyr
20 25 30

tta gcc tgg tac caa cag aaa cct ggc cag gct ccc agg ctc ctc atc 144
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

tat gat tca tcc aac agg gcc act ggc atc cca gcc aga ttc agt ggc 192
Tyr Asp Ser Ser Asn Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

agt ggg tct ggg aca gac ttc act ctc acc atc agc agc cta gag cct 240
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

gaa gat ttt gca act tat tac tgt cta cag cat aac act ttt cct ccg 288
Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln His Asn Thr Phe Pro Pro
85 90 95

acg ttc ggc caa ggg acc aag gtg gaa atc aaa 321
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

<210> 78

<211> 107

<212> PRT

<213> Human

SeqListing.txt

<400> 78

Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 5 10 15
 Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Tyr
 20 25 30
 Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45
 Tyr Asp Ser Ser Asn Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80
 Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln His Asn Thr Phe Pro Pro
 85 90 95
 Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 79

<211> 348
 <212> DNA
 <213> Human

<400> 79

gag gtc cag ctg gtg cag tct ggg gga ggc ctg gtc aag cct ggg ggg Glu Val Gln Leu Val Gln Ser Gly Gly Leu Val Lys Pro Gly Gly 5 10 15	48
tcc ctg aga ctc tcc tgt gca gcc tct gga ttc acc ttc agt agc tat Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr 20 25 30	96
agc atg aac tgg gtc cgc cag gct cca ggg aag ggg ctg gag tgg gtc Ser Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45	144
tca tcc att agt agt agt tac ata tac tac gca gac tca gtg Ser Ser Ile Ser Ser Ser Tyr Ile Tyr Tyr Ala Asp Ser Val 50 55 60	192
aag ggc cga ttc acc atc tcc aga gac aac gcc aag aac tca ctg tat Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr 65 70 75 80	240
ctg caa atg aac agc ctg aga gcc gag gac acg gct gtg tat tac tgt Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95	288
gcg aga gtc aca gat gct ttt gat atc tgg ggc caa ggg aca atg gtc Ala Arg Val Thr Asp Ala Phe Asp Ile Trp Gly Gln Gly Thr Met Val 100 105 110	336
acc gtc tca agc Thr Val Ser Ser 115	348

<210> 80

<211> 330
 <212> DNA
 <213> Human

<400> 80

cag tct gcc ctg act cag cct gcc tcc ctg tct ggg tct cct gga cag Gln Ser Ala Leu Thr Gln Pro Ala Ser Leu Ser Gly Ser Pro Gly Gln 5 10 15	48
tcg atc acc atc tcc tgc gct gga acc acc act gat ctt aca tat tat Ser Ile Thr Ile Ser Cys Ala Gly Thr Thr Asp Leu Thr Tyr Tyr 20 25 30	96

SeqListing.txt

gac ctt gtc tcc tgg tac caa cag cac cca ggc caa gca ccc aaa ctc	144
Asp Leu Val Ser Trp Tyr Gln Gln His Pro Gly Gln Ala Pro Lys Leu	
35 40 45	
gtg att tat gac ggc aat aag cgg ccc tca gga gtt tct aat cgc ttc	192
Val Ile Tyr Asp Gly Asn Lys Arg Pro Ser Gly Val Ser Asn Arg Phe	
50 55 60	
tct ggc tcc aag tct ggc aac acg gcc tcc ctg aca atc tct gga ctc	240
Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu	
65 70 75 80	
cag gct gag gac gag gct gat tat tac tgc aac tca tat gta agc agc	288
Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Asn Ser Tyr Val Ser Ser	
85 90 95	
agg ttt tat gtc ttc gga act ggg acc aag gtc acc gtc cta	330
Arg Phe Tyr Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu	
100 105 110	

<210> 81

<211> 110

<212> PRT

<213> Human

<400> 81

Gln Ser Ala Leu Thr Gln Pro Ala Ser Leu Ser Gly Ser Pro Gly Gln	
5 10 15	
Ser Ile Thr Ile Ser Cys Ala Gly Thr Thr Thr Asp Leu Thr Tyr Tyr	
20 25 30	
Asp Leu Val Ser Trp Tyr Gln Gln His Pro Gly Gln Ala Pro Lys Leu	
35 40 45	
Val Ile Tyr Asp Gly Asn Lys Arg Pro Ser Gly Val Ser Asn Arg Phe	
50 55 60	
Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu	
65 70 75 80	
Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Asn Ser Tyr Val Ser Ser	
85 90 95	
Arg Phe Tyr Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu	
100 105 110	

<210> 82

<211> 348

<212> DNA

<213> Human

<400> 82

gaa gtg cag ctg gtg cag tct ggg gga ggc ctg gtc aag cct ggg ggg	48
Glu Val Gln Leu Val Gln Ser Gly Gly Leu Val Lys Pro Gly Gly	
5 10 15	
tcc ctg aga ctc tcc tgt gca gcc tct gga ttc acc ttc agt agc tat	96
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr	
20 25 30	
agc atg aac tgg gtc cgc cag gct cca ggg aag ggg ctg gag tgg gtc	144
Ser Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val	
35 40 45	
tca tcc att agt agt agt agt tac ata tac tac gca gac tca gtg	192
Ser Ser Ile Ser Ser Ser Ser Tyr Ile Tyr Tyr Ala Asp Ser Val	
50 55 60	
aag ggc cga ttc acc atc tcc aga gac aac gcc aag gac tca ctg tat	240
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asp Ser Leu Tyr	
65 70 75 80	
ctg caa atg aac agc ctg aga gcc gag gac acg gct gtg tat tac tgt	288
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys	
85 90 95	

SeqListing.txt

gcg aga gtc aca gat gct ttt gat atc tgg ggc caa ggg aca atg gtc	336
Ala Arg Val Thr Asp Ala Phe Asp Ile Trp Gly Gln Gly Thr Met Val	
100 105 110	
acc gtc tca agc	348
Thr Val Ser Ser	
115	

<210> 83

<211> 116

<212> PRT

<213> Human

<400> 83

Glu Val Gln Leu Val Gln Ser Gly Gly Leu Val Lys Pro Gly Gly	
5 10 15	
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr	
20 25 30	
Ser Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val	
35 40 45	
Ser Ser Ile Ser Ser Ser Ser Tyr Ile Tyr Tyr Ala Asp Ser Val	
50 55 60	
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asp Ser Leu Tyr	
65 70 75 80	
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys	
85 90 95	
Ala Arg Val Thr Asp Ala Phe Asp Ile Trp Gly Gln Gly Thr Met Val	
100 105 110	
Thr Val Ser Ser	
115	

<210> 84

<211> 321

<212> DNA

<213> Human

<400> 84

gac atc cag ttg acc cag tct cca tct tct gtg tct gca tct gta gga	48
Asp Ile Gln Leu Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Val Gly	
5 10 15	
gac aga gtc acc atc act tgt cgg gcg agt cag ggt att agt agt cgg	96
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Ser Ser Arg	
20 25 30	
tta gcc tgg tat cag cag aaa cca ggg aaa gcc cct aag ctc ctg atc	144
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile	
35 40 45	
tat gct gca tcc agt ttg caa act ggg gtc cca tca agg ttc agc ggc	192
Tyr Ala Ala Ser Ser Leu Gln Thr Gly Val Pro Ser Arg Phe Ser Gly	
50 55 60	
agt gga tct ggg aca gat ttc act ctc act atc agc agc ctg cag cct	240
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro	
65 70 75 80	
gaa gat ttt gca act tac tat tgt caa cag gct aac agg ttc cct ccg	288
Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ala Asn Arg Phe Pro Pro	
85 90 95	
act ttc ggc cct ggg acc aaa gtg gat atc aaa	321
Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys	
100 105	

<210> 85

<211> 107

<212> PRT

SeqListing.txt

<213> Human

<400> 85

Asp Ile Gln Leu Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Val Gly
5 10 15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Ser Ser Arg
20 25 30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45
Tyr Ala Ala Ser Ser Leu Gln Thr Gly Val Pro Ser Arg Phe Ser Gly
50 55 60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80
Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ala Asn Arg Phe Pro Pro
85 90 95
Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
100 105

<210> 86

<211> 333

<212> DNA

<213> Human

<400> 86

cag tct gtc gtg acg cag ccg ccc tca gtg tct ggg gcc cca ggg cag Gln Ser Val Val Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln	48
5 10 15	
agg gtc acc atc tcc tgc act ggg agc cac tcc aac ttc ggg gca gga Arg Val Thr Ile Ser Cys Thr Gly Ser His Ser Asn Phe Gly Ala Gly	96
20 25 30	
act gat gta cat tgg tac caa cac ctt cca gga aca gcc ccc aga ctc Thr Asp Val His Trp Tyr Gln His Leu Pro Gly Thr Ala Pro Arg Leu	144
35 40 45	
ctc att cat gga gac agt aat cgg ccc tcc ggg gtc cct gac cga ttc Leu Ile His Gly Asp Ser Asn Arg Pro Ser Gly Val Pro Asp Arg Phe	192
50 55 60	
tct ggc tcc agg tct ggc acc tca gcc tcc ctg gcc atc act ggg ctc Ser Gly Ser Arg Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu	240
65 70 75 80	
cgg gtt gag gat gag gct gat tat tac tgt cag tcg tat gac tat ggc Arg Val Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Tyr Gly	288
85 90 95	
ctg aga ggt tgg gtg ttc ggc ggc ggg acc aag ctg acc gtc ctt Leu Arg Gly Trp Val Phe Gly Gly Thr Lys Leu Thr Val Leu	333
100 105 110	

<210> 87

<211> 111

<212> PRT

<213> Human

<400> 87

Gln Ser Val Val Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
5 10 15
Arg Val Thr Ile Ser Cys Thr Gly Ser His Ser Asn Phe Gly Ala Gly
20 25 30
Thr Asp Val His Trp Tyr Gln His Leu Pro Gly Thr Ala Pro Arg Leu
35 40 45
Leu Ile His Gly Asp Ser Asn Arg Pro Ser Gly Val Pro Asp Arg Phe
50 55 60

SeqListing.txt

Ser Gly Ser Arg Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
 65 70 75 80
 Arg Val Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Tyr Gly
 85 90 95
 Leu Arg Gly Trp Val Phe Gly Gly Thr Lys Leu Thr Val Leu
 100 105 110

<210> 88

<211> 321

<212> DNA

<213> Human

<400> 88

gat gtt gtg atg act cag tct cca tcg tcc ctg tct gca tct gta ggg Asp Val Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly 5 10 15	48
gac aga gtc acc atc act tgc cgg gca agt cag aac att aac aac tat Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asn Ile Asn Asn Tyr 20 25 30	96
tta aat tgg tat caa cag aaa cca gga aaa gcc cct aag ctc ctg atc Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile 35 40 45	144
tat gct gcc tcc act ttg caa agt ggg gtc cca tca agg ttc agt ggc Tyr Ala Ala Ser Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly 50 55 60	192
agt gga tct ggg aca gat ttc act ctc acc atc acc agc cta cag cct Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Thr Ser Leu Gln Pro 65 70 75 80	240
gaa gat tct gca act tat tac tgc caa cag tat tcc cgt tat cct ccc Glu Asp Ser Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Arg Tyr Pro Pro 85 90 95	288
act ttc ggc gga ggg acc aag gtg gag atc aca Thr Phe Gly Gly Thr Lys Val Glu Ile Thr	321
100 105	

<210> 89

<211> 107

<212> PRT

<213> Human

<400> 89

Asp Val Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly 5 10 15	
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asn Ile Asn Asn Tyr 20 25 30	
Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile 35 40 45	
Tyr Ala Ala Ser Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly 50 55 60	
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Thr Ser Leu Gln Pro 65 70 75 80	
Glu Asp Ser Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Arg Tyr Pro Pro 85 90 95	
Thr Phe Gly Gly Thr Lys Val Glu Ile Thr	
100 105	

<210> 90

<211> 330

<212> DNA

<213> Human

SeqListing.txt

<400> 90

cag tct gcc ctg act cag cct gcc tcc gtg tct ggg tct cgt gga cag	48
Gln Ser Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Arg Gly Gln	
5 10 15	
tcg atc acc ctc tcc tgc acc ggc tcc agc act gat gtg ggt aat tat	96
Ser Ile Thr Leu Ser Cys Thr Gly Ser Ser Thr Asp Val Gly Asn Tyr	
20 25 30	
aac tat atc tcc tgg tac caa caa cac cca ggc caa gcc ccc aaa ctc	144
Asn Tyr Ile Ser Trp Tyr Gln Gln His Pro Gly Gln Ala Pro Lys Leu	
35 40 45	
ttg att tac gat gtc act agt cgg ccc tca ggt gtt tct gat cgc ttc	192
Leu Ile Tyr Asp Val Thr Ser Arg Pro Ser Gly Val Ser Asp Arg Phe	
50 55 60	
tct ggc tcc aag tca ggc ctc acg gcc tcc ctg acc atc tct gga ctc	240
Ser Gly Ser Lys Ser Gly Leu Thr Ala Ser Leu Thr Ile Ser Gly Leu	
65 70 75 80	
cag cct gaa gac gag gct gac tat tac tgc aac tcc tat tct gcc acc	288
Gln Pro Glu Asp Glu Ala Asp Tyr Tyr Cys Asn Ser Tyr Ser Ala Thr	
85 90 95	
gac act ctt gtt ttt ggc gga ggg acc aag ctg acc gtc cta	330
Asp Thr Leu Val Phe Gly Gly Thr Lys Leu Thr Val Leu	
100 105 110	

<210> 91

<211> 110

<212> PRT

<213> Human

<400> 91

Gln Ser Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Arg Gly Gln	
5 10 15	
Ser Ile Thr Leu Ser Cys Thr Gly Ser Ser Thr Asp Val Gly Asn Tyr	
20 25 30	
Asn Tyr Ile Ser Trp Tyr Gln Gln His Pro Gly Gln Ala Pro Lys Leu	
35 40 45	
Leu Ile Tyr Asp Val Thr Ser Arg Pro Ser Gly Val Ser Asp Arg Phe	
50 55 60	
Ser Gly Ser Lys Ser Gly Leu Thr Ala Ser Leu Thr Ile Ser Gly Leu	
65 70 75 80	
Gln Pro Glu Asp Glu Ala Asp Tyr Tyr Cys Asn Ser Tyr Ser Ala Thr	
85 90 95	
Asp Thr Leu Val Phe Gly Gly Thr Lys Leu Thr Val Leu	
100 105 110	

<210> 92

<211> 333

<212> DNA

<213> Human

<400> 92

cag gct gtg ctg act cag ccg tcc tca gtg tct ggg gcc cca gga cag	48
Gln Ala Val Leu Thr Gln Pro Ser Ser Val Ser Gly Ala Pro Gly Gln	
5 10 15	
agg gtc acc atc tcc tgc act ggg caa agc tcc aat atc ggg gca gat	96
Arg Val Thr Ile Ser Cys Thr Gly Gln Ser Ser Asn Ile Gly Ala Asp	
20 25 30	
tat gat gta cat tgg tac cag caa ttt cca gga aca gcc ccc aaa ctc	144
Tyr Asp Val His Trp Tyr Gln Gln Phe Pro Gly Thr Ala Pro Lys Leu	
35 40 45	
ctc atc tat ggt cac aac aat cgg ccc tca ggg gtc cct gac cga ttc	192

SeqListing.txt

Leu	Ile	Tyr	Gly	His	Asn	Asn	Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe
50					55					60					
tct	ggc	tcc	aag	tct	ggc	acc	tca	gtc	tcc	ctg	gtc	atc	agt	ggg	ctc
Ser	Gly	Ser	Lys	Ser	Gly	Thr	Ser	Val	Ser	Leu	Val	Ile	Ser	Gly	Leu
65					70					75					80
cag	gct	gag	gat	gag	gct	gat	tat	tat	tgc	cag	tcc	tat	gac	agc	agt
Gln	Ala	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Gln	Ser	Tyr	Asp	Ser	Ser
85					90								95		
cta	agt	ggg	ttg	gta	ttc	ggc	gga	ggg	acc	aag	gtg	acc	gtc	cta	
Leu	Ser	Gly	Leu	Val	Phe	Gly	Gly	Gly	Thr	Lys	Val	Thr	Val	Leu	
100					105								110		

<210> 93
<211> 111
<212> PRT
<213> Human

<400> 93

Gln Ala Val Leu Thr Gln Pro Ser Ser Val Ser Gly Ala Pro Gly Gln
 5 10 15
 Arg Val Thr Ile Ser Cys Thr Gly Gln Ser Ser Asn Ile Gly Ala Asp
 20 25 30
 Tyr Asp Val His Trp Tyr Gln Gln Phe Pro Gly Thr Ala Pro Lys Leu
 35 40 45
 Leu Ile Tyr Gly His Asn Asn Arg Pro Ser Gly Val Pro Asp Arg Phe
 50 55 60
 Ser Gly Ser Lys Ser Gly Thr Ser Val Ser Leu Val Ile Ser Gly Leu
 65 70 75 80
 Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Ser Ser
 85 90 95
 Leu Ser Gly Leu Val Phe Gly Gly Thr Lys Val Thr Val Leu
 100 105 110

<210> 94
<211> 321
<212> DNA
<213> Human

<400> 94

SeqListing.txt

<210> 95
 <211> 107
 <212> PRT
 <213> Human

<400> 95

Asp Ile Gln Leu Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Val Gly
 5 10 15
 Asp Ser Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Ile Ser Ser Trp
 20 25 30
 Leu Ala Trp Tyr Gln Gln Lys Pro Gly Glu Ala Pro Lys Leu Leu Ile
 35 40 45
 Tyr Ala Ala Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Ala Leu Thr Ile Asn Ser Leu Gln Pro
 65 70 75 80
 Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ala Asp Ser Phe Pro Pro
 85 90 95
 Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
 100 105

<210> 96
 <211> 321
 <212> DNA
 <213> Human

<400> 96

gac atc gag ttg acc cag tct cca tct tcc gtg tct gca tct gtg gga	48
Asp Ile Glu Leu Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Val Gly	
5 10 15	
gac aga gtc acc ctc act tgt cgg gcg agt cag agt att aag agg agg tgg	96
Asp Arg Val Thr Leu Thr Cys Arg Ala Ser Gln Ser Ile Lys Arg Trp	
20 25 30	
tta gcc tgg tat cag cag aaa cca ggg aag gcc cct agg ctc ctc atc	144
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile	
35 40 45	
tat gct gca tcc act ttg caa agt ggg gtc cca tca agg ttc agc ggc	192
Tyr Ala Ala Ser Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly	
50 55 60	
ggt gga tct ggg aca gat ttc act ctc acc atc aac agc ctg cag cct	240
Gly Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Gln Pro	
65 70 75 80	
gaa gat ttt gca att tac tac tgt caa cag gct aac agt ttc cct ccc	288
Glu Asp Phe Ala Ile Tyr Tyr Cys Gln Gln Ala Asn Ser Phe Pro Pro	
85 90 95	
act ttc ggc cct ggg acc aaa gtg gat atc aaa	321
Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys	
100 105	

<210> 97
 <211> 107
 <212> PRT
 <213> Human

<400> 97

Asp Ile Glu Leu Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Val Gly
 5 10 15
 Asp Arg Val Thr Leu Thr Cys Arg Ala Ser Gln Ser Ile Lys Arg Trp
 20 25 30
 Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile

SeqListing.txt

35	40	45
Tyr Ala Ala Ser Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly		
50	55	60
Gly Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Gln Pro		
65	70	75
Glu Asp Phe Ala Ile Tyr Tyr Cys Gln Gln Ala Asn Ser Phe Pro Pro		80
85	90	95
Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys		
100	105	

<210> 98

<211> 333

<212> DNA

<213> Human

<400> 98

cag tct gtc gtg acg cag ccg ccc tca gtg tct ggg gcc cca ggg cag	48	
Gln Ser Val Val Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln		
5	10	15
agg gtc acc atc tcc tgc agt ggg agc agg tcc aac atc ggg gca cac	96	
Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ala His		
20	25	30
tat gaa gtc cag tgg tac cag cag ttt ccg gga gca gcc ccc aaa ctc	144	
Tyr Glu Val Gln Trp Tyr Gln Gln Phe Pro Gly Ala Ala Pro Lys Leu		
35	40	45
ctc atc tat ggt gac acc aat cgg ccc tca ggg gtc cct gac cga ttc	192	
Leu Ile Tyr Gly Asp Thr Asn Arg Pro Ser Gly Val Pro Asp Arg Phe		
50	55	60
tct gcc tcc cac tct ggc acc tca gcc tcc ctt gcc atc aca ggg ctc	240	
Ser Ala Ser His Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu		
65	70	75
cag gct gag gat gag gct gat tat tac tgc cag tcg tat gac acc agt	288	
Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Thr Ser		
85	90	95
cta cgt ggt ccg gtg ttc ggc gga ggg acc aag ctg acc gtc cta	333	
Leu Arg Gly Pro Val Phe Gly Gly Thr Lys Leu Thr Val Leu		
100	105	110

<210> 99

<211> 111

<212> PRT

<213> Human

<400> 99

Gln Ser Val Val Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln		
5	10	15
Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ala His		
20	25	30
Tyr Glu Val Gln Trp Tyr Gln Gln Phe Pro Gly Ala Ala Pro Lys Leu		
35	40	45
Leu Ile Tyr Gly Asp Thr Asn Arg Pro Ser Gly Val Pro Asp Arg Phe		
50	55	60
Ser Ala Ser His Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu		
65	70	75
Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Thr Ser		
85	90	95
Leu Arg Gly Pro Val Phe Gly Gly Thr Lys Leu Thr Val Leu		
100	105	110

<210> 100

<211> 333

SeqListing.txt

<212> DNA
<213> Human

<400> 100

cag tct gtc gtg acg cag ccg ccc tca gtg tct ggg gcc cca ggg cag Gln Ser Val Val Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln	48
5 10 15	
agg gtc acc atc tcc tgc act ggg agc agc tcc aac atc ggg aca ggt Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Thr Gly	96
20 25 30	
tat gat gta cat tgg tac cag cag gtt cca gga tca gcc ccc aaa ctc Tyr Asp Val His Trp Tyr Gln Gln Val Pro Gly Ser Ala Pro Lys Leu	144
35 40 45	
ctc atc tat gct tac acc aat cgg ccc tca ggg gtc cct gac cga ttc Leu Ile Tyr Ala Tyr Thr Asn Arg Pro Ser Gly Val Pro Asp Arg Phe	192
50 55 60	
tct ggc tcc aag tct ggc atg tca gcc tcc ctg gtc atc ggt ggt ctc Ser Gly Ser Lys Ser Gly Met Ser Ala Ser Leu Val Ile Gly Gly Leu	240
65 70 75 80	
cag gct gag gat gag gct gat tat tac tgc cag tcc ttt gac gac agc Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Phe Asp Asp Ser	288
85 90 95	
ctg aat ggt ctt gtc ttc gga cct ggg acc tcg gtc acc gtc ctc Leu Asn Gly Leu Val Phe Gly Pro Gly Thr Ser Val Thr Val Leu	333
100 105 110	

<210> 101
<211> 111
<212> PRT
<213> Human

<400> 101

Gln Ser Val Val Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln 5 10 15	
Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Thr Gly	
20 25 30	
Tyr Asp Val His Trp Tyr Gln Gln Val Pro Gly Ser Ala Pro Lys Leu	
35 40 45	
Leu Ile Tyr Ala Tyr Thr Asn Arg Pro Ser Gly Val Pro Asp Arg Phe	
50 55 60	
Ser Gly Ser Lys Ser Gly Met Ser Ala Ser Leu Val Ile Gly Gly Leu	
65 70 75 80	
Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Phe Asp Asp Ser	
85 90 95	
Leu Asn Gly Leu Val Phe Gly Pro Gly Thr Ser Val Thr Val Leu	
100 105 110	

<210> 102
<211> 333
<212> DNA
<213> Human

<400> 102

cag tct gtg ttg acg cag ccg ccc tca gtg tct ggg gcc cca ggg cag Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln	48
5 10 15	
agg gtc acc atc tcc tgc act ggg agc cac tcc aac ttc ggg gca ggt Arg Val Thr Ile Ser Cys Thr Gly Ser His Ser Asn Phe Gly Ala Gly	96
20 25 30	
act gat gtc cat tgg tac caa cac ctt cca gga aca gcc ccc aga ctc	144

SeqListing.txt

Thr Asp Val His Trp Tyr Gln His Leu Pro Gly Thr Ala Pro Arg Leu			
35	40	45	
ctc att cat gga gac act cat cg ^g ccc tcc ggg gtc gct gac cga ttc			192
Leu Ile His Gly Asp Thr His Arg Pro Ser Gly Val Ala Asp Arg Phe			
50	55	60	
tct ggc tcc agg tct ggc gcc tca gcc tcc ctg gcc atc act ggg ctc			240
Ser Gly Ser Arg Ser Gly Ala Ser Ala Ser Leu Ala Ile Thr Gly Leu			
65	70	75	80
cgg gtt gag gat gag gct gat tat tac tgt cag tcg tat gac tat ggc			288
Arg Val Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Tyr Gly			
85	90	95	
ctg aga ggt tgg gtc ttc ggc ggc ggg acc aag ctg acc gtc ctt			333
Leu Arg Gly Trp Val Phe Gly Gly Thr Lys Leu Thr Val Leu			
100	105	110	

<210> 103

<211> 111

<212> PRT

<213> Human

<400> 103

Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln			
5	10	15	
Arg Val Thr Ile Ser Cys Thr Gly Ser His Ser Asn Phe Gly Ala Gly			
20	25	30	
Thr Asp Val His Trp Tyr Gln His Leu Pro Gly Thr Ala Pro Arg Leu			
35	40	45	
Leu Ile His Gly Asp Thr His Arg Pro Ser Gly Val Ala Asp Arg Phe			
50	55	60	
Ser Gly Ser Arg Ser Gly Ala Ser Ala Ser Leu Ala Ile Thr Gly Leu			
65	70	75	80
Arg Val Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Tyr Gly			
85	90	95	
Leu Arg Gly Trp Val Phe Gly Gly Thr Lys Leu Thr Val Leu			
100	105	110	

<210> 104

<211> 321

<212> DNA

<213> Human

<400> 104

gac atc cag atg acc cag tct cca tct tcc gtg tct gca tct ata gga			48
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Ile Gly			
5	10	15	
gac aga gtc acc atc act tgt cgg gcg agt cag ggt att gac aac tgg			96
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Asp Asn Trp			
20	25	30	
tta ggc tgg tat cag cag aaa cct ggg aaa gcc cct aaa ctc ctg atc			144
Leu Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile			
35	40	45	
tac gat gca tcc aat ttg gac aca ggg gtc cca tca agg ttc agt gga			192
Tyr Asp Ala Ser Asn Leu Asp Thr Gly Val Pro Ser Arg Phe Ser Gly			
50	55	60	
agt gga tct ggg aca tat ttt act ctc acc atc agt agc ctg caa gct			240
Ser Gly Ser Gly Thr Tyr Phe Thr Leu Thr Ile Ser Ser Leu Gln Ala			
65	70	75	80
gaa gat ttt gca gtt tat ttc tgt caa cag gct aaa gct ttt cct ccc			288
Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ala Lys Ala Phe Pro Pro			
85	90	95	
act ttc ggc gga ggg acc aag gtg gac atc aaa			321

SeqListing.txt

Thr Phe Gly Gly Gly Thr Lys Val Asp Ile Lys
100 105

<210> 105
<211> 107
<212> PRT
<213> Human

<400> 105

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Ile Gly
5 10 15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Asp Asn Trp
20 25 30
Leu Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45
Tyr Asp Ala Ser Asn Leu Asp Thr Gly Val Pro Ser Arg Phe Ser Gly
50 55 60
Ser Gly Ser Gly Thr Tyr Phe Thr Leu Thr Ile Ser Ser Leu Gln Ala
65 70 75 80
Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ala Lys Ala Phe Pro Pro
85 90 95
Thr Phe Gly Gly Thr Lys Val Asp Ile Lys
100 105

<210> 106
<211> 13
<212> PRT
<213> Human

<400> 106

Thr Gly Ser His Ser Asn Phe Gly Ala Gly Thr Asp Val
5 10

<210> 107
<211> 7
<212> PRT
<213> Human

<400> 107

Gly Asp Ser Asn Arg Pro Ser
5

<210> 108
<211> 11
<212> PRT
<213> Human

<400> 108

Gln Ser Tyr Asp Tyr Gly Leu Arg Gly Trp Val
5 10

<210> 109
<211> 11
<212> PRT
<213> Human

<400> 109

Arg Ala Ser Gln Asn Ile Asn Asn Tyr Leu Asn
5 10

<210> 110
<211> 7

SeqListing.txt

<212> PRT
<213> Human

<400> 110
Ala Ala Ser Thr Leu Gln Ser
5

<210> 111

<211> 9

<212> PRT

<213> Human

<400> 111

Gln Gln Tyr Ser Arg Tyr Pro Pro Thr
5

<210> 112

<211> 14

<212> PRT

<213> Human

<400> 112

Thr Gly Ser Ser Thr Asp Val Gly Asn Tyr Asn Tyr Ile Ser
5 10

<210> 113

<211> 7

<212> PRT

<213> Human

<400> 113

Asp Val Thr Ser Arg Pro Ser
5

<210> 114

<211> 10

<212> PRT

<213> Human

<400> 114

Asn Ser Tyr Ser Ala Thr Asp Thr Leu Val
5 10

<210> 115

<211> 14

<212> PRT

<213> Human

<400> 115

Thr Gly Gln Ser Ser Asn Ile Gly Ala Asp Tyr Asp Val His
5 10

<210> 116

<211> 7

<212> PRT

<213> Human

<400> 116

Gly His Asn Asn Arg Pro Ser
5

<210> 117

<211> 11

<212> PRT

<213> Human

SeqListing.txt

<400> 117

Gln Ser Tyr Asp Ser Ser Leu Ser Gly Leu Val
5 10

<210> 118

<211> 11

<212> PRT

<213> Human

<400> 118

Arg Ala Ser Gln Asp Ile Ser Ser Trp Leu Ala
5 10

<210> 119

<211> 7

<212> PRT

<213> Human

<400> 119

Ala Ala Ser Leu Leu Gln Ser

5

<210> 120

<211> 9

<212> PRT

<213> Human

<400> 120

Gln Gln Ala Asp Ser Phe Pro Pro Thr
5

<210> 121

<211> 11

<212> PRT

<213> Human

<400> 121

Arg Ala Ser Gln Ser Ile Lys Arg Trp Leu Ala
5 10

<210> 122

<211> 7

<212> PRT

<213> Human

<400> 122

Ala Ala Ser Thr Leu Gln Ser

5

<210> 123

<211> 9

<212> PRT

<213> Human

<400> 123

Gln Gln Ala Asn Ser Phe Pro Pro Thr
5

<210> 124

<211> 14

<212> PRT

<213> Human

<400> 124

SeqListing.txt

Ser Gly Ser Arg Ser Asn Ile Gly Ala His Tyr Glu Val Gln
5 10

<210> 125

<211> 7

<212> PRT

<213> Human

<400> 125

Gly Asp Thr Asn Arg Pro Ser
5

<210> 126

<211> 11

<212> PRT

<213> Human

<400> 126

Gln Ser Tyr Asp Thr Ser Leu Arg Gly Pro Val
5 10

<210> 127

<211> 14

<212> PRT

<213> Human

<400> 127

Thr Gly Ser Ser Ser Asn Ile Gly Thr Gly Tyr Asp Val His
5 10

<210> 128

<211> 7

<212> PRT

<213> Human

<400> 128

Ala Tyr Thr Asn Arg Pro Ser
5

<210> 129

<211> 11

<212> PRT

<213> Human

<400> 129

Gln Ser Phe Asp Asp Ser Leu Asn Gly Leu Val
5 10

<210> 130

<211> 14

<212> PRT

<213> Human

<400> 130

Thr Gly Ser His Ser Asn Phe Gly Ala Gly Thr Asp Val His
5 10

<210> 131

<211> 7

<212> PRT

<213> Human

<400> 131

SeqListing.txt

Gly Asp Thr His Arg Pro Ser
5

<210> 132

<211> 11

<212> PRT

<213> Human

<400> 132

Gln Ser Tyr Asp Tyr Gly Leu Arg Gly Trp Val
5 10

<210> 133

<211> 11

<212> PRT

<213> Human

<400> 133

Arg Ala Ser Gln Gly Ile Asp Asn Trp Leu Gly
5 10

<210> 134

<211> 7

<212> PRT

<213> Human

<400> 134

Asp Ala Ser Asn Leu Asp Thr
5

<210> 135

<211> 9

<212> PRT

<213> Human

<400> 135

Gln Gln Ala Lys Ala Phe Pro Pro Thr
5

<210> 136

<211> 2351

<212> DNA

<213> Human

<400> 136

ggtaccgag aaagaaccgg ctcccgagtt ctgggcattt cgcccccgtc gaggtgcagg	59
atg cag agc aag gtg ctg ctg gcc gtc gcc ctg tgg ctc tgc gtg gag	107
Met Gln Ser Lys Val Leu Leu Ala Val Ala Leu Trp Leu Cys Val Glu	
5 10 15	
acc cgg gcc gcc tct gtg ggt ttg cct agt gtt tct ctt gat ctg ccc	155
Thr Arg Ala Ala Ser Val Gly Leu Pro Ser Val Ser Leu Asp Leu Pro	
20 25 30	
agg ctc agc ata caa aaa gac ata ctt aca att aag gct aat aca act	203
Arg Leu Ser Ile Gln Lys Asp Ile Leu Thr Ile Lys Ala Asn Thr Thr	
35 40 45	
ctt caa att act tgc agg gga cag agg gac ttg gac tgg ctt tgg ccc	251
Leu Gln Ile Thr Cys Arg Gly Gln Arg Asp Leu Asp Trp Leu Trp Pro	
50 55 60	
aat aat cag agt ggc agt gag caa agg gtg gag gtg act gag tgc agc	299
Asn Asn Gln Ser Gly Ser Glu Gln Arg Val Glu Val Thr Glu Cys Ser	
65 70 75 80	
gat ggc ctc ttc tgt aag aca ctc aca att cca aaa gtg atc gga aat	347

SeqListing.txt

Asp	Gly	Leu	Phe	Cys	Lys	Thr	Leu	Thr	Ile	Pro	Lys	Val	Ile	Gly	Asn	
85							90							95		
gac	act	gga	gcc	tac	aag	tgc	ttc	tac	cgg	gaa	act	gac	ttg	gcc	tcg	395
Asp	Thr	Gly	Ala	Tyr	Lys	Cys	Phe	Tyr	Arg	Glu	Thr	Asp	Leu	Ala	Ser	
100							105						110			
gtc	att	tat	gtc	tat	gtt	caa	gat	tac	aga	tct	cca	ttt	att	gct	tct	443
Val	Ile	Tyr	Val	Tyr	Val	Gln	Asp	Tyr	Arg	Ser	Pro	Phe	Ile	Ala	Ser	
115							120						125			
gtt	agt	gac	caa	cat	gga	gtc	gtg	tac	att	act	gag	aac	aaa	aac	aaa	491
Val	Ser	Asp	Gln	His	Gly	Val	Val	Tyr	Ile	Thr	Glu	Asn	Lys	Asn	Lys	
130							135						140			
act	gtg	gtg	att	cca	tgt	ctc	ggg	tcc	att	tca	aat	ctc	aac	gtg	tca	539
Thr	Val	Val	Ile	Pro	Cys	Leu	Gly	Ser	Ile	Ser	Asn	Leu	Asn	Val	Ser	
145							150						155		160	
ctt	tgt	gca	aga	tac	cca	gaa	aag	aga	ttt	gtt	cct	gat	ggt	aac	aga	587
Leu	Cys	Ala	Arg	Tyr	Pro	Glu	Lys	Arg	Phe	Val	Pro	Asp	Gly	Asn	Arg	
165							170						175			
att	tcc	tgg	gac	agc	aag	aag	ggc	ttt	act	att	ccc	agc	tac	atg	atc	635
Ile	Ser	Trp	Asp	Ser	Lys	Lys	Gly	Phe	Thr	Ile	Pro	Ser	Tyr	Met	Ile	
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gat	gtg	gtt	ctg	agt	ccg	tct	cat	gga	att	gaa	cta	tct	gtt	gga	gaa	779
Asp	Val	Val	Leu	Ser	Pro	Ser	His	Gly	Ile	Glu	Leu	Ser	Val	Gly	Glu	
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Asp	Phe	Asn	Trp	Glu	Tyr	Pro	Ser	Ser	Lys	His	Gln	His	Lys	Lys	Leu	
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Val	Asn	Arg	Asp	Leu	Lys	Thr	Gln	Ser	Gly	Ser	Glu	Met	Lys	Lys	Phe	
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Leu	Ser	Thr	Leu	Thr	Ile	Asp	Gly	Val	Thr	Arg	Ser	Asp	Gln	Gly	Leu	
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Phe	Val	Arg	Val	His	Glu	Lys	Pro	Phe	Val	Ala	Phe	Gly	Ser	Gly	Met	
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Glu	Ser	Leu	Val	Glu	Ala	Thr	Val	Gly	Glu	Arg	Val	Arg	Ile	Pro	Ala	
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<211> 764

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<213> Human

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35 40 45
Leu Gln Ile Thr Cys Arg Gly Gln Arg Asp Leu Asp Trp Leu Trp Pro
50 55 60
Asn Asn Gln Ser Gly Ser Glu Gln Arg Val Glu Val Thr Glu Cys Ser
65 70 75 80
Asp Gly Leu Phe Cys Lys Thr Leu Thr Ile Pro Lys Val Ile Gly Asn
85 90 95
Asp Thr Gly Ala Tyr Lys Cys Phe Tyr Arg Glu Thr Asp Leu Ala Ser
100 105 110
Val Ile Tyr Val Tyr Val Gln Asp Tyr Arg Ser Pro Phe Ile Ala Ser
115 120 125
Val Ser Asp Gln His Gly Val Val Tyr Ile Thr Glu Asn Lys Asn Lys
130 135 140
Thr Val Val Ile Pro Cys Leu Gly Ser Ile Ser Asn Leu Asn Val Ser
145 150 155 160
Leu Cys Ala Arg Tyr Pro Glu Lys Arg Phe Val Pro Asp Gly Asn Arg
165 170 175
Ile Ser Trp Asp Ser Lys Lys Gly Phe Thr Ile Pro Ser Tyr Met Ile
180 185 190
Ser Tyr Ala Gly Met Val Phe Cys Glu Ala Lys Ile Asn Asp Glu Ser
195 200 205
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210 215 220
Asp Val Val Leu Ser Pro Ser His Gly Ile Glu Leu Ser Val Gly Glu
225 230 235 240
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Asp Phe Asn Trp Glu Tyr Pro Ser Ser Lys His Gln His Lys Lys Leu
260 265 270
Val Asn Arg Asp Leu Lys Thr Gln Ser Gly Ser Glu Met Lys Lys Phe
275 280 285
Leu Ser Thr Leu Thr Ile Asp Gly Val Thr Arg Ser Asp Gln Gly Leu
290 295 300
Tyr Thr Cys Ala Ala Ser Ser Gly Leu Met Thr Lys Lys Asn Ser Thr
305 310 315 320
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325 330 335
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Lys Tyr Leu Gly Tyr Pro Pro Pro Glu Ile Lys Trp Tyr Lys Asn Gly
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Ile Pro Leu Glu Ser Asn His Thr Ile Lys Ala Gly His Val Leu Thr
370 375 380
Ile Met Glu Val Ser Glu Arg Asp Thr Gly Asn Tyr Thr Val Ile Leu
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SeqListing.txt

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465 470 475 480
Pro Cys Glu Glu Trp Arg Ser Val Glu Asp Phe Gln Gly Gly Asn Lys
485 490 495
Ile Glu Val Asn Lys Asn Gln Phe Ala Leu Ile Glu Gly Lys Asn Lys
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Lys Cys Glu Ala Val Asn Lys Val Gly Arg Gly Glu Arg Val Ile Ser
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Phe His Val Thr Arg Gly Pro Glu Ile Thr Leu Gln Pro Asp Met Gln
545 550 555 560
Pro Thr Glu Gln Glu Ser Val Ser Leu Trp Cys Thr Ala Asp Arg Ser
565 570 575
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Ile His Val Gly Glu Leu Pro Thr Pro Val Cys Lys Asn Leu Asp Thr
595 600 605
Leu Trp Lys Leu Asn Ala Thr Met Phe Ser Asn Ser Thr Asn Asp Ile
610 615 620
Leu Ile Met Glu Leu Lys Asn Ala Ser Leu Gln Asp Gln Gly Asp Tyr
625 630 635 640
Val Cys Leu Ala Gln Asp Arg Lys Thr Lys Lys Arg His Cys Val Val
645 650 655
Arg Gln Leu Thr Val Leu Glu Arg Val Ala Pro Thr Ile Thr Gly Asn
660 665 670
Leu Glu Asn Gln Thr Thr Ser Ile Gly Glu Ser Ile Glu Val Ser Cys
675 680 685
Thr Ala Ser Gly Asn Pro Pro Gln Ile Met Trp Phe Lys Asp Asn
690 695 700
Glu Thr Leu Val Glu Asp Ser Gly Ile Val Leu Lys Asp Gly Asn Arg
705 710 715 720
Asn Leu Thr Ile Arg Arg Val Arg Lys Glu Asp Glu Gly Leu Tyr Thr
725 730 735
Cys Gln Ala Cys Ser Val Leu Gly Cys Ala Lys Val Glu Ala Phe Phe
740 745 750
Ile Ile Glu Gly Ala Gln Glu Lys Thr Asn Leu Glu
755 760